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Remagnetization and Chemical Alteration of Sedimentary Rocks

Edited by
R. D. Elmore, A. R. Muxworthy, M. M. Aldana and M. Mena

Remagnetization is a common phenomenon in rocks, and developing a greater understanding of its mechanisms has several benefits. Acquisition of a secondary magnetization is usually tangible evidence of a diagenetic or thermal event, which can be dated using palaeomagnetic techniques. This is important because the timing of diagenetic and thermal events is commonly difficult to determine. Remagnetization can also obscure primary magnetizations and a better understanding of remagnetization could improve our ability to uncover primary magnetizations. Many chemical remagnetization mechanisms have been proposed, including those associated with chemical alteration by a number of different fluids (e.g. orogenic, weathering, mineralizing, hydrocarbons) and burial diagenetic processes (e.g. clay diagenesis, maturation of organic matter). This book contains case studies and review articles that focus on remagnetization, chemical remagnetization mechanisms, and magnetic changes associated with chemical alteration by hydrocarbons.

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Cover illustration:
An outcrop of zebra dolomite in the Alamo Breccia from the Devonian Guinette Formation, Nevada. US quarter (2.4 cm diameter) for scale.
Photograph: Shannon Dulin.